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SEQUENCE LISTING

Information for SEQ ID NO: 1 rP40

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 344 amino acids, 1032 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

1  
N - Met Lys Ala Ile Phe Val Leu Asn Ala Ala Pro Lys 12  
5'- ATG AAA GCA ATT TTC GTA CTG AAT GCG GCT CCG AAA 30  
Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser Gln Tyr His Asp Thr 30  
GAT AAC ACC TGG TAT GCA GGT GGT AAA CTG GGT TGG TCC CAG TAT CAC GAC ACC 48  
Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn Gly Pro Thr Arg Asn Asp Gln 48  
GGT TTC TAC GGT AAC GGT TTC CAG AAC AAC AAC GGT CCG ACC CGT AAC GAT CAG 66  
Leu Gly Ala Gly Ala Phe Gly Gly Tyr Gln Val Asn Pro Tyr Leu Gly Phe Glu 66  
CTT GGT GCT GGT GCG TTC GGT GGT TAC CAG GTT AAC CCG TAC CTC GGT TTC GAA 84  
Met Gly Tyr Asp Trp Leu Gly Arg Met Ala Tyr Lys Gly Ser Val Asp Asn Gly 84  
ATG GGT TAT GAC TGG CTG GCG CGT ATG GCA TAT AAA GCG AGC GTT GAC AAC GGT 102  
Ala Phe Lys Ala Gln Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr 102  
GCT TTC AAA GCT CAG GCG GTT CAG CTG ACC GCT AAA CTG GGT TAC CCG ATC ACT 120  
Asp Asp Leu Asp Ile Tyr Thr Arg Leu Gly Gly Met Val Trp Arg Ala Asp Ser 120  
GAC GAT CTG GAC ATC TAC ACC CGT CTG GCG GCG ATG GTT TGG CCG GCT GAC TCC 138  
Lys Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly Val 138  
AAA GCG AAC TAC GCT TCT ACC GCG GTT TCC CGT AGC GAA CAC GAC ACT GCG GTT 156  
Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp Ile Ala Thr 156  
TCC CCA GTA TTT GCT GCG GCG GTA GAG TGG GCT GTT ACT CGT GAC ATC GCT ACC 174  
Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala Gly Thr Val Gly Thr 174  
CGT CTG GAA TAC CAG TGG GTT AAC AAC ATC GCG GAC GCG GCG ACT GTG GGT ACC 192  
Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val Ser Tyr Arg Phe Gly Gln Glu 192  
CGT CCT GAT AAC GCG ATG CTG AGC CTG GCG GTT TCC TAC CCG TTC GGT CAG GAA 210  
Asp Ala Ala Pro Val Val Ala Pro Ala Pro Ala Pro Ala Pro Glu Val Ala Thr 210  
GAT GCT GCA CCG GTT GTT GCT CCG GCT CCG GCT CCG GCT CCG GAA GTG GCT ACC 228  
Lys His Phe Thr Leu Lys Ser Asp Val Leu Phe Asn Phe Asn Lys Ala Thr Leu 228  
AAG CAC TTC ACC CTG AAG TCT GAC GTT CTG TTC AAC TTC AAC AAA GCT ACC CTG 246  
Lys Pro Glu Gly Gln Gln Ala Leu Asp Gln Leu Tyr Thr Gln Leu Ser Asn Met 246  
AAA CCG GAA GGT CAG CAG GCT CTG GAT CAG CTG TAC ACT CAG CTG AGC AAC ATG 264  
Asp Pro Lys Asp Gly Ser Ala Val Val Leu Gly Tyr Thr Asp Arg Ile Gly Ser 264  
GAT CCG AAA GAC GGT TCC GCT GTT GTT CTG GCG TAC ACC GAC CCG ATC GGT TCC

282  
 Glu Ala Tyr Asn Gln Gln Leu Ser Glu Lys Arg Ala Gln Ser Val Val Asp Tyr  
 GAA GCT TAC AAC CAG CAG CTG TCT GAG AAA CGT GCT CAG TCC GTC GTT GAC TAC  
 300  
 Leu Val Ala Lys Gly Ile Pro Ala Gly Lys Ile Ser Ala Arg Gly Met Gly Glu  
 CTG GTT GCT AAA GGC ATC CCG GCT GGC AAA ATC TCC GCT CGC GGC ATG GGT GAA  
 318  
 Ser Asn Pro Val Thr Gly Asn Thr Cys Asp Asn Val Lys Ala Arg Ala Ala Leu  
 TCC AAC CCG GTT ACT GGC AAC ACC TGT GAC AAC GTG AAA GCT CGC GCT GCC CTG  
 336  
 Ile Asp Cys Leu Ala Pro Asp Arg Arg Val Glu Ile Glu Val Lys Gly Tyr Lys  
 ATC GAT TGC CTG GCT CCG GAT CGT CGT GTA GAG ATC GAA GTT AAA GGC TAC AAA  
 344  
 Glu Val Val Thr Gln Pro Gln Ala  
 GAA GTT GTA ACT CAG CCT CAG GCT

Information for SEQ ID NO: 2 G2A

SEQUENCE TYPE: amino acids and nucleotides  
 SEQUENCE LENGTH: 101 amino acids, 303 nucleotides  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein

130  
 N - Thr Val Lys Thr Lys Asn Thr Thr Thr Thr Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys  
 5'- ACC GTG AAA ACC AAA APC ACC ACG ACC ACC CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA  
 150  
 Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe  
 CAG CGT CAG APC AAA CCG CCG AAC AAA CCG APC APC GAT TTC CAT TTC GAA GTG TTC AAC TTC  
 171 173 176 182 186  
 Val Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn  
 GTG CCG TGC AGC ATC TGC AGC APC APC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG APC  
 192  
 Lys Lys Pro Gly Lys Lys Thr Thr Thr Thr Lys Pro Thr Lys Lys Pro Thr Phe Lys Thr Thr Lys  
 AAA AAA CCG GGC AAA AAA ACC ACG ACC AAA CCG ACC AAA AAA CCG ACC TTC AAA ACC ACC AAA  
 213 230  
 Lys Asp His Lys Pro Gln Thr Thr Lys Pro Lys Glu Val Pro Thr Thr Lys Pro - C  
 AAA GAT CAT AAA CCG CAG ACC ACC AAA CCG AAA GAA GTG CCG ACC ACC AAA CCG - 3'

Information for SEQ ID NO: 3 G2B

SEQUENCE TYPE: amino acids and nucleotides  
 SEQUENCE LENGTH: 101 amino acids, 303 nucleotides  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein

Publ. No. WO 99/49892

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 101 amino acids, 303 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

130

N - Thr Ala Gln Thr Lys Gly Arg Ile Thr Thr Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys  
 5'- ACC GCG CAG ACC AAA GGC CGT ATC ACC ACC AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA  
 150

Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe  
 AGC CGT ACC AAA AAC CCG CCG AAA AAA CCG AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC  
 171 173 176 182 186

Val Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser  
 GTG CCG ACC AGC ATC TGC GGC AAC AAC CAG CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC

192

Asn Lys Pro Lys Lys Lys Pro Thr Ile Lys Pro Thr Asn Lys Pro Thr Thr Lys Thr Thr Asn  
 AAC AAA CCG AAA AAG AAA CCG ACC ATC AAA CCG ACC AAC AAA CCG ACC ACC AAA ACC AAC  
 213 230

Lys Arg Asp Pro Lys Thr Pro Ala Lys Met Pro Lys Lys Glu Ile Ile Thr Asn - C  
 AAA CGT GAT CCG AAA ACC CCG GCG AAA ATG CCG AAG AAG GAA ATC ATC ACC AAC - 3'

Information for SEQ ID NO: 6

G1ACys

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187  
 N - Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys - C  
 5'- AGC ATC TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA - 3'

Information for SEQ ID NO: 7

G1BCys

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187  
 N - Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys - C  
 5'- AGC ATC TGC GGC AAC AAC CAG CTG TGC AAA AGC ATC TGC AAA - 3'

Information for SEQ ID NO: 8

G1A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

130  
150  
171  
173  
176  
182  
186  
192  
213  
230

174 176 182 186 187  
N - Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys - C  
5'- AGC ATC TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA - 3'

Information for SEQ ID NO: 9 G1B

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 14 amino acids, 42 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

174 176 182 186 187  
N - Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys - C  
5'- AGC ATC TGC GGC AAC AAC CAG CTG TGC AAA AGC ATC AGC AAA - 3'

Information for SEQ ID NO: 10                      G1'A

SEQUENCE TYPE: amino acids  
SEQUENCE LENGTH: 14 amino acids  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

N - Ser<sup>174</sup> Ile<sup>176</sup> Asp Ser Asn<sup>182</sup> Asn Pro Thr Orn Trp Ala<sup>186</sup> Ile<sup>187</sup> Cys Lys - C

Information for SEQ ID NO: 11                      G1'B

SEQUENCE TYPE: amino acids  
SEQUENCE LENGTH: 14 amino acids  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

N - Ser Ile Asp Gly Asn Asn Gln Leu Orn Lys Ser Ile Cys Lys - C

Information for SEQ ID NO: 12                      G1'A8C

SEQUENCE TYPE: amino acids  
SEQUENCE LENGTH: 14 amino acids  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

[illegible]

174 176 182 186 187  
N - Ser Ile Asp Ser Asn Asn Pro Thr Orn Trp Ala Ile Ser Lys - C

Information for SEQ ID NO: 13 G1'B8C

SEQUENCE TYPE: amino acids  
SEQUENCE LENGTH: 14 amino acids  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

174 176 182 186 187  
N - Ser Ile Asp Gly Asn Asn Gln Leu Orn Lys Ser Ile Ser Lys - C

Information for SEQ ID NO: 14 G2A8CF

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 101 amino acids, 303 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

130  
N - Thr Val Lys Thr Lys Asn Thr Thr Thr Thr Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys  
5'- ACC GTG AAA ACC AAA AAC ACC ACC ACC CAG ACC CAG CCG ACC AAA CCG ACC ACC AAA  
150 163 165 168 170  
Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro Asn Asn Asp Ser His Ser Glu Val Ser Asn Ser  
CAG CGT CAG AAC AAA CCG CCG AAC AAA CCG AAC AAC GAT TCC CAT TCC GAA GTG TCC AAC TCC  
171 173 176 182 186  
Val Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn  
GTG CCG AGC AGC ATC TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC ACC AAA CGT ATC CCG AAC  
192  
Lys Lys Pro Gly Lys Lys Thr Thr Thr Lys Pro Thr Lys Lys Pro Thr Phe Lys Thr Thr Lys  
AAA AAA CCG GGC AAA AAA ACC ACC ACC AAA CCG ACC AAA AAA CCG ACC TTC AAA ACC ACC AAA  
213 230  
Lys Asp His Lys Pro Gln Thr Thr Lys Pro Lys Glu Val Pro Thr Thr Lys Pro - C  
AAA GAT CAT AAA CCG CAG ACC ACC AAA CCG AAA GAA GTG CCG ACC ACC AAA CCG - 3'

Information for SEQ ID NO: 15 G4A

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 17 amino acids, 51 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

171 173 176 182 186 187  
N - Val Pro Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys - C  
5'- GTG CCG TGC AGC ATC TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA - 3'

00647300:000249500

Information for SEQ ID NO: 16 G4AδC

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 17 amino acids, 51 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

171 173 176 182 186 187  
N - Val Pro Ser Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys - C  
5' - GTG CCG AGC AGC ATC TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA - 3'

Information for SEQ ID NO: 17 G4B

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 17 amino acids, 51 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

171 173 176 182 186 187  
N - Val Pro Cys Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys - C  
5' -GTG CCC TGC AGC ATC TGC GGC AAC AAC CAG CTG TGC AAA AGC ATC TGC AAA - 3'

Information for SEQ ID NO: 18 G4BδC

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 17 amino acids, 51 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

171 173 176 182 186 187  
N - Val Pro Ser Ser Ile Cys Gly Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys - C  
5' -GTG CCC AGC AGC ATC TGC GGC AAC AAC CAG CTG TGC AAA AGC ATC AGC AAA - 3'

Information for SEQ ID NO: 19 G4'A

SEQUENCE TYPE: amino acids  
SEQUENCE LENGTH: 17 amino acids  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide

171 173 176 182 186 187  
N - Val Pro Asp Ser Ile Asp Ser Asn Asn Pro Thr Orn Trp Ala Ile Orn Lys - C

171 173 176 182 186 187



Information for SEQ ID NO: 20

G4'AδC

SEQUENCE TYPE: amino acids

SEQUENCE LENGTH: 17 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

171 173 176 182 186 187  
N - Val Pro Ser Ser Ile Asp Ser Asn Asn Pro Thr Orn Trp Ala Ile Ser Lys - C

Information for SEQ ID NO: 21

G4'B

SEQUENCE TYPE: amino acids

SEQUENCE LENGTH: 17 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

171 173 176 182 186 187  
N - Val Pro Asp Ser Ile Asp Gly Asn Asn Gln Leu Orn Lys Ser Ile Orn Lys - C

Information for SEQ ID NO: 22

G4'BδC

SEQUENCE TYPE: amino acids

SEQUENCE LENGTH: 17 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

171 173 176 182 186 187  
N - Val Pro Ser Ser Ile Asp Gly Asn Asn Gln Leu Orn Lys Ser Ile Ser Lys - C

Information for SEQ ID NO: 23

G200A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 61 amino acids, 183 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

PCT/FR99/00703

140  
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn  
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC  
 158 173 176  
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys  
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC  
 177 182 186  
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys Pro Gly  
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA AAA CCG GGC  
 196 200  
 Lys Lys Thr Thr Thr - C  
 AAA AAA ACC ACG ACC - 3'

Information for SEQ ID NO: 24 G198A

SEQUENCE TYPE: amino acids and nucleotides  
 SEQUENCE LENGTH: 59 amino acids, 177 nucleotides  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein

140  
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn  
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC  
 158 173 176  
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys  
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC  
 177 182 186  
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys Pro Gly  
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA AAA CCG GGC  
 196 198  
 Lys Lys Thr - C  
 AAA AAA ACC - 3'

Information for SEQ ID NO: 25 G196A

SEQUENCE TYPE: amino acids and nucleotides  
 SEQUENCE LENGTH: 57 amino acids, 171 nucleotides  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein

140  
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn  
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC  
 158 173 176  
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys  
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC  
 177 182 186  
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys Pro Gly  
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA AAA CCG GGC  
 196  
 Lys - C  
 AAA - 3'

Information for SEQ ID NO: 26 G194A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 55 amino acids, 165 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn  
 5' - CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC  
 158 173 176  
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys  
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC  
 177 182 186 194  
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys Lys Pro - C  
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA AAA CCG - 3'

Information for SEQ ID NO: 27 G192A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 52 amino acids, 159 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn  
 5' - CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC  
 158 173 176  
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys  
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC  
 177 182 186 192  
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys Arg Ile Pro Asn Lys - C  
 AGC AAC AAC CCG ACC TGC TGG GCG ATC TGC AAA CGT ATC CCG AAC AAA - 3'

Information for SEQ ID NO: 28 G6A

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn  
 5' - CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC  
 158 173 176  
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys  
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC

Information for SEO ID NO: 29                      G7A

158																	173	
N -	Lys	Pro	Asn	Asn	Asp.	Phe	His	Phe	Glu	Val	Phe	Asn	Phe	Val	Pro	Cys	Ser	Ile
5'-	AAA	CCG	AAC	AAC	GAT	TTC	CAT	TTC	GAA	GTC	TTC	AAC	TTC	GTC	CCG	TGC	AGC	ATC
176						182				186				190				
Cys	Ser	Asn	Asn	Pro	Thr	Cys	Trp	Ala	Ile	Cys	Lys	Arg	Ile	Pro	-	C		
TGC	AGC	AAC	AAC	CCG	ACC	TGC	TGG	GCG	ATC	TGC	AAA	CGT	ATC	CCG	-	3'		

Information for SEQ ID NO: 30      G200AδC

[illegible]

Information for SEQ ID NO: 31 G198AδC

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 59 amino acids, 177 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

Information for SEQ ID NO: 32      G196A8C

140

N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn
5' - CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC
158
Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys
AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC
177
Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys Lys Pro Gly
AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG AAC AAA AAA CCG GGC
196
Lys - C
AAA - 3'

Information for SEQ ID NO: 33      G194AδC

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 55 amino acids, 165 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

	N	-	Gln	Thr	Gln	Pro	Ser	Lys	Pro	Thr	Thr	Lys	Gln	Arg	Gln	Asn	Lys	Pro	Pro	Asn
5'-	CAG	ACC	CAG	CCG	AGC	AAA	CCG	ACC	ACC	AAA	CAG	CGT	CAG	AAC	AAA	CCG	CCG	AAC		
158																	173			176
Lys	Pro	Asn	Asn	Asp	Phe	His	Phe	Glu	Val	Phe	Asn	Phe	Val	Pro	Ser	Ser	Ile	Cys		
AAA	CCG	AAC	AAC	GAT	TTC	CAT	TTC	GAA	GIG	TTC	AAC	TTC	GIG	CCG	AGC	AGC	ATC	TGC		
177					182				186									194		
Ser	Asn	Asn	Pro	Thr	Cys	Trp	Ala	Ile	Ser	Lys	Arg	Ile	Pro	Asn	Lys	Lys	Pro	-	C	
AGC	AAC	AAC	CCG	ACC	TGC	TGG	GCG	ATC	AGC	AAA	CGT	ATC	CCG	AAC	AAA	AAA	CCG	-	3'	

Information for SEQ ID NO: 34

G192AδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 53 amino acids, 159 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140  
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn  
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC  
 158  
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys  
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC  
 177  
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro Asn Lys - C  
 AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG AAC AAA - 3'

Information for SEQ ID NO: 35

G6AδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140  
 N - Gln Thr Gln Pro Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn  
 5'- CAG ACC CAG CCG AGC AAA CCG ACC ACC AAA CAG CGT CAG AAC AAA CCG CCG AAC  
 158  
 Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys  
 AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC  
 177  
 Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro - C  
 AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG - 3'

Information for SEQ ID NO: 36

G7AδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 33 amino acids, 99 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

158  
 N - Lys Pro Asn Asn Asp Phe His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile  
 5'- AAA CCG AAC AAC GAT TTC CAT TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC  
 176  
 Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Ser Lys Arg Ile Pro - C  
 TGC AGC AAC AAC CCG ACC TGC TGG GCG ATC AGC AAA CGT ATC CCG - 3'

G200B

MOLECULE TYPE: protein

Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys Lys Pro Thr Ile- C  
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AAG AAA CCG ACC ATC- 3'

G198B

MOLECULE TYPE: protein

Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys Lys Pro - C  
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AAG AAA CCG - 3'

G196B

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro  
5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG  
160 173 176  
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly Asn Asn Gln  
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC GGC AAC AAC CAG  
182 186 196  
Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys - C  
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AGC - 3'

Information for SEQ ID NO: 40 G194B

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 55 amino acids, 165 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro  
5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG  
160 173 176  
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly Asn Asn Gln  
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC GGC AAC AAC CAG  
182 186 194  
Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn Lys Pro - C  
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC AAA CCG - 3'

Information for SEQ ID NO: 41 G192B

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 53 amino acids, 159 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro  
5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG  
160 173 176  
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly Asn Asn Gln  
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC GGC AAC AAC CAG  
182 186 192  
Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro Ser Asn - C  
CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG AGC AAC - 3'



Information for SEQ ID NO: 42

G6B

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro  
 5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG  
 160 173 176  
 Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly Asn Asn Gln  
 AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC GGC AAC AAC CAG  
 182 186 190  
 Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro - C  
 CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG - 3'

Information for SEQ ID NO: 43

G7B

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 33 amino acids, 99 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

158

173

176

N - Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Cys Ser Ile Cys Gly  
 5'- AAA CCG AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG TGC AGC ATC TGC GGC  
 182 186 190  
 Asn Asn Gln Leu Cys Lys Ser Ile Cys Lys Thr Ile Pro - C  
 AAC AAC CAG CTG TGC AAA AGC ATC TGC AAA ACC ATC CCG - 3'

Information for SEQ ID NO: 44

G200BdC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 61 amino acids, 183 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro  
 5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG  
 160 173 176  
 Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln  
 AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC GGC AAC AAC CAG  
 182 186 200  
 Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys Lys Pro Thr Ile- C  
 CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AGC AAA CCG ACC ATC- 3'

102010-6024960

G198BδC

MOLECULE TYPE: protein

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro  
5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG  
160 173 176  
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln  
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCC AGC AGC ATC TGC GGC AAC AAC CAG  
182 186 198  
Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn Lys Pro Lys-Lys Lys Pro - C  
CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AAG AAA CCG - 3'

G196BδC

MOLECULE TYPE: protein

N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro  
5'- AGC ACC CAG ACC AAC AAA CCG AGC ACC AAA AGC CGT AGC AAA AAC CCG CCG AAA AAA CCG  
160 173 176  
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln  
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCG AGC AGC ATC TGC GGC AAC AAC CAG  
182 186 196  
Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro Ser Asn Lys Pro Lys Lys - C  
CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG AGC AAC AAA CCG AAA AAG - 3'

G194BδC

MOLECULE TYPE: protein

[illegible]

Information for SEO ID NO: 48      G192B8C

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 53 amino acids, 159 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

Information for SEQ ID NO: 49                      G6BδC

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 51 amino acids, 153 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

140  
N - Ser Thr Gln Thr Asn Lys Pro Ser Thr Lys Ser Arg Ser Lys Asn Pro Pro Lys Lys Pro  
5'- AGC ACC CAG ACC APC AAA CCG AGC ACC AAA AGC CGT AGC AAA APC CCG CCG AAA AAA CCG  
160 173 176  
Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly Asn Asn Gln  
AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCC AGC AGC ATC TGC GGC AAC AAC CAG  
182 186 190  
Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro - C  
CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG - 3'

Information for SEQ ID NO: 50

G7B8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 33 amino acids, 99 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

158 173 176  
 N - Lys Pro Lys Asp Asp Tyr His Phe Glu Val Phe Asn Phe Val Pro Ser Ser Ile Cys Gly  
 5'- AAA CCG AAA GAT GAT TAC CAC TTC GAA GTG TTC AAC TTC GTG CCC AGC AGC ATC TTC GCC  
 182 186 190  
 Asn Asn Gln Leu Cys Lys Ser Ile Ser Lys Thr Ile Pro - C  
 AAC AAC CAG CTG TGC AAA AGC ATC AGC AAA ACC ATC CCG - 3'

Information for SEQ ID NO: 51

G2V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 101 amino acids, 303 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

130  
 N - Gln Asn Arg Lys Ile Lys Gly Gln Ser Thr Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn  
 5'- CAA AAC AGA AAA ATC AAA GGT CAA TCA ACA CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT  
 150  
 Pro Ser Gly Ser Ile Pro Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr  
 CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT  
 171 173 176 182 186  
 Val Pro Cys Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu  
 GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA  
 192  
 Arg Ala Pro Ser Arg Ala Pro Thr Ile Thr Leu Lys Lys Thr Pro Lys Pro Lys Thr Thr Lys  
 AGA GCA CCA AGC AGA GCA CCA ACA ATC ACC CTC AAA AAG ACA CCA AAA CCA AAA ACC ACA AAA  
 213 230  
 Lys Pro Thr Lys Thr Thr Ile His His Arg Thr Ser Pro Glu Thr Lys Leu Gln - C  
 AAG CCA ACC AAG ACA ACA ATC CAT CAC AGA ACC AGC CCA GAA ACC AAA CTG CAA - 3'

Information for SEQ ID NO: 52

G2V8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 101 amino acids, 303 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

130  
 N - Gln Asn Arg Lys Ile Lys Gly Gln Ser Thr Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn  
 5'- CAA AAC AGA AAA ATC AAA GGT CAA TCA ACA CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT

P00001-500000

150

Pro Ser Gly Ser Ile Pro Pro Glu Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr  
 CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT  
 171 173 176 182 186  
 Val Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu  
 GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC AGC CAT ATT GAG AGG GAA  
 192  
 Arg Ala Pro Ser Arg Ala Pro Thr Ile Thr Leu Lys Lys Thr Pro Lys Pro Lys Thr Thr Lys  
 AGA GCA CCA AGC AGA GCA CCA ACA ATC ACC CTC AAA AAG ACA CCA AAA CCA AAA ACC ACA AAA  
 213 230  
 Lys Pro Thr Lys Thr Thr Ile His His Arg Thr Ser Pro Glu Thr Lys Leu Gln - C  
 AAG CCA ACC AAG ACA ACA ATC CAT CAC AGA ACC AGC CCA GAA ACC AAA CTG CAA - 3'

Information for SEQ ID NO: 53 G200V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 61 amino acids, 183 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
 160 173 176  
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu  
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT  
 182 186 200  
 Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro Thr Ile - C  
 GCA TGC TTA TCA CTC TGC CAT ATT GAG AGG GAA AGA GCA CCA AGC AGA GCA CCA ACA ATC - 3'

Information for SEQ ID NO: 54 G198V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 59 amino acids, 177 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
 160 173 176  
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu  
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT  
 182 186 198  
 Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro - C  
 GCA TGC TTA TCA CTC TGC CAT ATT GAG AGG GAA AGA GCA CCA AGC AGA GCA CCA - 3'

Information for SEQ ID NO: 55 G196V

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 57 amino acids, 171 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

140  
N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
5'- CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
160 173 176  
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu  
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT  
182 186 196  
Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg Ala Pro Ser Arg - C  
GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA AGA CCA CCA AGC AGA - 3'

Information for SEQ ID NO: 56 G194V

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 55 amino acids, 165 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

140  
N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
5'- CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
160 173 176  
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu  
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT  
182 186 194  
Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg Ala Pro - C  
GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA AGA CCA CCA - 3'

Information for SEQ ID NO: 57 G192V

SEQUENCE TYPE: amino acids and nucleotides  
SEQUENCE LENGTH: 53 amino acids, 159 nucleotides  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
5'- CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
160 173 176  
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu  
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT  
182 186 192  
Ala Cys Leu Ser Leu Cys His Ile Glu Thr Glu Arg - C  
GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG GAA AGA - 3'

Information for SEQ ID NO: 58 G6V

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
5'- CTA CCA GCC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
160 173 176  
Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys Glu Gly Asn Leu  
CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT GAA GGT AAT CTT  
182 186 190  
Ala Cys Leu Ser Leu Cys His Ile Glu Thr - C  
GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG - 3'

Information for SEQ ID NO: 59 G7V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 33 amino acids, 99 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

158

173

176

N - Asn His Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Cys Ser Thr Cys  
5'- AAC CAT CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC TGC AGT ACA TGT  
182 186 190  
Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His Ile Glu Thr - C  
GAA GGT AAT CTT GCA TGC TTA TCA CTC TGC CAT ATT GAG ACG - 3'

Information for SEQ ID NO: 60 G200VδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 61 amino acids, 183 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

Sequence data for G6V, G7V, G200VδC

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
 160 173 176  
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu  
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT  
 182 186 200  
 Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro Thr Ile - C  
 GCA TGC TTA TCA CTC AGC CAT ATT GAG AGG GAA AGA GCA CCA AGC AGA GCA CCA ACA ATC - 3'

Information for SEQ ID NO: 61 G198VδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 59 amino acids, 177 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
 160 173 176  
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu  
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT  
 182 186 198  
 Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala Pro Ser Arg Ala Pro - C  
 GCA TGC TTA TCA CTC AGC CAT ATT GAG AGG GAA AGA GCA CCA AGC AGA GCA CCA ACA - 3'

Information for SEQ ID NO: 62 G196VδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 57 amino acids, 171 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
 160 173 176  
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu  
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT  
 182 186 196  
 Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala Pro Ser Arg - C  
 GCA TGC TTA TCA CTC AGC CAT ATT GAG AGG GAA AGA GCA CCA AGC AGA - 3'

Information for SEQ ID NO: 63 G194VδC

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 55 amino acids, 165 nucleotides

STRANDEDNESS: single

PCT/FR99/00703



TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
 160 173 176  
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu  
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT  
 182 186 194  
 Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg Ala Pro - C  
 GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG GAA AGA GCA CCA - 3'

Information for SEQ ID NO: 64

G192V8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 53 amino acids, 159 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
 160 173 176  
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu  
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT  
 182 186 192  
 Ala Cys Leu Ser Leu Ser His Ile Glu Thr Glu Arg - C  
 GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG GAA AGA - 3'

Information for SEQ ID NO: 65

G6V8C

SEQUENCE LENGTH: 51 amino acids, 153 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

140

N - Leu Pro Ala Thr Arg Lys Pro Pro Ile Asn Pro Ser Gly Ser Ile Pro Pro Glu Asn His  
 5'- CTA CCA GGC ACA AGA AAA CCA CCA ATT AAT CCA TCA GGA AGC ATC CCA CCA GAA AAC CAT  
 160 173 176  
 Gln Asp His Asn Asn Phe Gln Thr Leu Pro Tyr Val Pro Ser Ser Thr Cys Glu Gly Asn Leu  
 CAA GAC CAC AAC AAC TTC CAA ACA CTC CCC TAT GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT  
 182 186 190  
 Ala Cys Leu Ser Leu Ser His Ile Glu Thr - C  
 GCA TGC TTA TCA CTC AGC CAT ATT GAG ACG - 3'

Information for SEQ ID NO: 66

G7V8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 33 amino acids, 99 nucleotides

PCT/FR99/00703

Information for SEO ID NO: 67                      G4V

	171	173			176						182			186	187			
N -	Val	Pro	Cys	Ser	Thr	Cys	Glu	Gly	Asn	Leu	Ala	Cys	Leu	Ser	Leu	Cys	His	- C
5'-	GTT	CCC	TGC	AGT	ACA	TGT	GAA	GGT	AAT	CTT	GCA	TGC	TTA	TCA	CTC	TGC	CAT	- 3'

Information for SEQ ID NO: 68      G4V8C

N - Val Pro Ser Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His - C  
5'- GTT CCC AGC AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC AGC CAT - 3'

Information for SEO ID NO: 69                      G4'V

N - Val<sup>171</sup> Pro<sup>173</sup> Asp<sup>176</sup> Ser<sup>182</sup> Thr<sup>186</sup> Asp<sup>187</sup> Glu Gly Asn Leu Ala Orn Leu Ser Leu Orn His - C

Information for SEO ID NO: 70                      G4'V8C

SEQUENCE TYPE: amino acids

SEQUENCE LENGTH: 17 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

171 173 176 182 186 187  
N - Val Pro Ser Ser Thr Asp Glu Gly Asn Leu Ala Orn Leu Ser Leu Ser His - C

Information for SEQ ID NO: 71 G1V

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187  
N - Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Cys His - C  
5'- AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC TGC CAT - 3'

Information for SEQ ID NO: 72 G1V8C

SEQUENCE TYPE: amino acids and nucleotides

SEQUENCE LENGTH: 14 amino acids, 42 nucleotides

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187  
N - Ser Thr Cys Glu Gly Asn Leu Ala Cys Leu Ser Leu Ser His - C  
5'- AGT ACA TGT GAA GGT AAT CTT GCA TGC TTA TCA CTC AGC CAT - 3'

Information for SEQ ID NO: 73 G1'V8C

SEQUENCE TYPE: amino acids

SEQUENCE LENGTH: 14 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187  
N - Ser Thr Asp Glu Gly Asn Leu Ala Orn Leu Ser Leu Ser His - C

Information for SEQ ID NO: 74 G1'

SEQUENCE TYPE: amino acids

WO 99/49892

- 27 -

PCT/FR99/00703

SEQUENCE LENGTH: 15 amino acids

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

174 176 182 186 187  
N - Ser Ile Asp Ser Asn Asn Pro Thr Orn Trp Ala Ile Ser Lys Cys - C

FOUOFOUO FOUOFOUO